

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Art Unit: 2175

Kenneth L. Levy

Conf. No.: 2418

Application No.: 10/602,549

Filed: June 23, 2003

**VIA ELECTRONIC FILING**

For: Embedded Data Windows in Audio  
Sequences and Video Frames

Examiner: Jordany Nunez

Date: November 17, 2008

**RESPONSE TO NOTIFICATION OF  
NON-COMPLIANT APPEAL BRIEF (37 CFR 41.37)**

Mail Stop Appeal Brief – Patents  
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Sir:

This paper is responsive to the November 4, 2008 Notification of Non-Compliant Appeal Brief (37 CFR 41.37). Only an updated “Summary of the Claimed Subject Matter” section is provided per the suggestion in the Notification.

The Office is authorized to charge any fees needed to consider this paper to our deposit account no. 50-1071.

Appellant respectfully requests the Board of Patent Appeals and Interferences (hereafter the “Board”) to *reverse* the outstanding final rejection of the pending claims.

### SUMMARY OF CLAIMED SUBJECT MATTER

The presently claimed invention provides solutions to help thwart modern-day pirates. These pirates sneak into movie theaters armed with video recorders or digital camcorders. After stealing a movie, the pirates sell their bootlegged copies for pennies on the dollar – robbing artists of billions. The claims embed or detect information hidden in media content (e.g., video) to help thwart this and other forms of piracy. For some of the claims, information embedded within content is visually perceptible when viewing an individual portion of the content. However, the information becomes imperceptible when the embedded content is rendered or played in real time. Support for the independent and separately argued dependent claims is presented below.

Claim 40 recites a detecting method including: obtaining content, the content including auxiliary data embedded therein, the embedding being accomplished through modifications of portions of the content [see, e.g., page 6, lines 1-3 of paragraph [0026]; page 8, lines 1-6 of paragraph [0031]; page 8, lines 1-12 of paragraph [0032]; page 9, lines 1-2 of paragraph [0033]; 9, lines 1-8 of paragraph [0034]; lines 1-15 of paragraph [0035]; and page 10, lines 1-3 of paragraph [0037]], the modifications occurring prior to obtaining the content, the modifications being humanly perceptible if examined in a finite segment or frame of the content, but provided in the content so as to be humanly imperceptible when examined as the content is rendered or projected in real-time [see, e.g., page 6, lines 3-6 of paragraph [0026], ]; page 8, lines 1-6 of paragraph [0031]; page 8, lines 1-12 of paragraph [0032]; page 9, lines 1-2 of paragraph [0033]; 9, lines 1-8 of paragraph [0034]; lines 1-15 of paragraph [0035]; and page 10, lines 1-3 of paragraph [0037]]; averaging a plurality of content portions [see, e.g., page 12, lines 1-7 of paragraph [0041] and lines 1-5 of paragraph [0046] spanning pages 13-14]; and detecting the auxiliary data from data representing averaged content portions, the auxiliary data being relatively more detectable from the data representing averaged content portions compared to individual portions including the auxiliary data [see, e.g., page 12, lines 1-7 of paragraph [0041]; lines 1-5 of paragraph [0046] spanning pages 13-14; lines 1-10 of paragraph [0047] and lines 1-3 of paragraph [0048], both on page 14].

Claim 16 recites a detection method for the video embedded according to claim 1, comprising averaging a plurality of the video frames including the first and second frames, wherein the averaging improves the signal to noise ratio of the identification data to video content [see, e.g., page 12, lines 1-7 of paragraph [0041]; lines 1-5 of paragraph [0046] spanning pages 13-14; lines 1-10 of paragraph [0047] and lines 1-3 of paragraph [0048], both on page 14].

Claim 33 recites a detector to detect the data provided according to claim 28, wherein the detector averages a plurality of the video frames so that the provided data becomes consciously perceptible [see, e.g., page 12, lines 1-7 of paragraph [0041]; lines 1-5 of paragraph [0046] spanning pages 13-14; lines 1-10 of paragraph [0047] and lines 1-3 of paragraph [0048], both on page 14].

Claim 1 recites a method of embedding identification data in video, the video comprising a plurality of video frames. The method includes: embedding the identification data in a first video frame prior to distribution or projection of the video, the embedded identification data being visually perceptible upon examination of the first frame [see, e.g., page 6, lines 1-3 of paragraph [0026]; page 8, lines 1-6 of paragraph [0031]; page 8, lines 1-12 of paragraph [0032]; page 9, lines 1-2 of paragraph [0033]; 9, lines 1-8 of paragraph [0034]; lines 1-15 of paragraph [0035]; and page 10, lines 1-3 of paragraph [0037]]; selecting a second video frame, wherein the first and second video frames are separate frames [see, e.g., FIG. 2, and lines 6-14 of paragraph [0038], page 11]; and embedding the identification data in the second video frame prior to distribution or projection of the content, the embedded identification data being visually perceptible upon examination of the second frame, wherein the identification data is generally imperceptible upon real-time rendering of the video see, e.g., page 6, lines 1-3 of paragraph [0026]; page 8, lines 1-6 of paragraph [0031]; page 8, lines 1-12 of paragraph [0032]; page 9, lines 1-2 of paragraph [0033]; 9, lines 1-8 of paragraph [0034]; lines 1-15 of paragraph [0035]; page 10, lines 1-3 of paragraph [0037]; and lines 6-14 of paragraph [0038], page 11].

Claim 2 recites that the selecting of claim 1 includes selecting the second frame so that the repetition of the embedded identification data is imperceptible to the human conscious mind

when rendered [see, e.g., lines 3 – 6 of paragraph [0026] on pages 6-7; and lines 3-14 of paragraph [0038], page 11].

Claim 8 recites that the second frame of claim 2 is selected so that the repetition of the embedded identification data is imperceptible to the unconscious human mind [see, e.g., lines 3 – 6 of paragraph [0026] on pages 6-7; and lines 3-14 of paragraph [0038], page 11].

Claim 3 recites that the identification data of claim 1 is embedded in the same frame location in each of the first and second frames [see, e.g., lines 1-5 of paragraph [0046], spanning pages 13-14].

Claim 5 recites a detection method for the video embedded according to claim 1, including providing device-aided character recognition of the first or second frames to detect the identification data [see, e.g., lines 3-4 of paragraph [0045], page 13].

Claim 12 recites that each of the plurality of identifiers of claim 11 is embedded to be spatially located in a separate frame location with respect to each other [see, e.g., lines 1-7 of paragraph [0043], pages 11-12; and lines 10-15 of paragraph [0035], page 9].

Claim 23 recites a method of marking content with auxiliary data, the method is characterized in that the auxiliary data is embedded in the content prior to distribution or projection of the content so as to be humanly perceptible if examined in a finite segment or frame of the content [see, e.g., page 6, lines 1-3 of paragraph [0026]; page 8, lines 1-6 of paragraph [0031]; page 8, lines 1-12 of paragraph [0032]; page 9, lines 1-2 of paragraph [0033]; 9, lines 1-8 of paragraph [0034]; lines 1-15 of paragraph [0035]; and page 10, lines 1-3 of paragraph [0037]], but is embedded in the content so as to be humanly imperceptible when examined as the content is rendered or projected in real-time [see, e.g., page 6, lines 1-3 of paragraph [0026]; page 8, lines 1-6 of paragraph [0031]; page 8, lines 1-12 of paragraph [0032]; page 9, lines 1-2 of paragraph [0033]; 9, lines 1-8 of paragraph [0034]; lines 1-15 of paragraph [0035]; and page 10, lines 1-3 of paragraph [0037]].

Claim 27 recites a method of steganographically hiding data in media content, wherein the media content comprises a plurality of segments including masking content [see, e.g., Fig. 2 and Figs. 3a-3b, where the “non-embedded frames” comprise masking content]. The method is

characterized in that at least two of the media segments are provided with the data prior to distribution or projection of the media content, wherein the data comprises humanly perceptible data [see, e.g., lines 3-6 of paragraph [0026] on pages 6-7; lines 3-5 of paragraphs [0031], page 8; lines 1-8 of paragraph [0032], page 8; and lines 3-14 of paragraph [0038], page 11], and wherein the data remains perceptible upon individual examination of the at least two media segments but consciously imperceptible as the media content is rendered in real time since the data is below a perceptual threshold due to the masking content [see, e.g., lines 3-6 of paragraph [0026] on pages 6-7; lines 3-5 of paragraphs [0031], page 8; lines 1-8 of paragraph [0032], page 8; and lines 3-14 of paragraph [0038], page 11].

Claim 37 recites a method of marking content with auxiliary data comprising: obtaining content; embedding auxiliary data in the content through modifications of portions of the content, the modifications occurring prior to distribution or projection of the content [see, e.g., page 6, lines 1-3 of paragraph [0026]; page 8, lines 1-6 of paragraph [0031]; page 8, lines 1-12 of paragraph [0032]; page 9, lines 1-2 of paragraph [0033]; 9, lines 1-8 of paragraph [0034]; lines 1-15 of paragraph [0035]; page 10, lines 1-3 of paragraph [0037]; and lines 3-14 of paragraph [0038], page 11], the modifications being humanly perceptible if examined in a finite segment or frame of the content, but provided in the content so as to be humanly imperceptible when examined as the content is rendered or projected in real-time; and distributing or projecting the content [see, e.g., page 6, lines 1-3 of paragraph [0026]; page 8, lines 1-6 of paragraph [0031]; page 8, lines 1-12 of paragraph [0032]; page 9, lines 1-2 of paragraph [0033]; 9, lines 1-8 of paragraph [0034]; lines 1-15 of paragraph [0035]; page 10, lines 1-3 of paragraph [0037]; and lines 3-14 of paragraph [0038], page 11].

(Of course, additional specification support can be found throughout the application as filed. Thus, citations to specific page and paragraph numbers are by way of example and should not limit specification support or claim scope.)

**CONCLUSION AND REQUEST FOR REVERSAL**

Appellant respectfully requests the Board to reverse the final rejection of the pending claims.

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